

## Food Safety Update and The Sick Employee DDN April 2006

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## Overview

- Report of the Nation and South Dakota on Foodborne illnesses Incidence
- The sick employee
- Security of our food supply –what are some questions we should be asking

## National Picture -- Foodnet

- The Foodborne Diseases Active Surveillance Network (FoodNet), started in 1996
- Ten Sites across the U.S.A.
- Active Surveillance of foodborne diseases and epidemiologic studies -- public health
- Diseases of concern – *Campylobacter*, *E. coli* O157:H7, *Listeria monocytogenes*, *Salmonella*, *Shigella*, *Vibrio*, *Yersinia enterocolitica*, *Cryptosporidium*, *Cyclospora*
- ACTIVE SURVEILLANCE
- Focuses on diseases that have diarrheal effect.

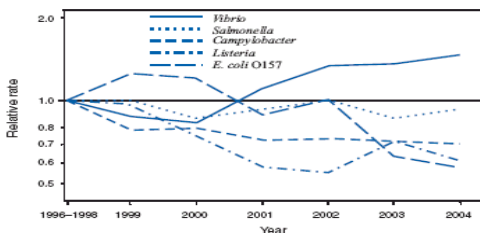
## Why the concern?

CDC estimates 76 million illness, 325,000 hospitalizations, and 5000 deaths attributed to contamination of the food supply.

High Risk Groups!

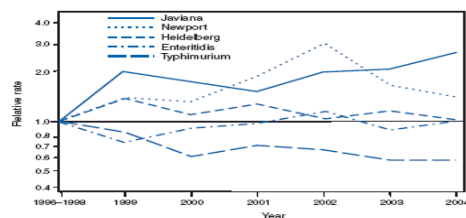
## 2004 Summary

FIGURE 1. Relative rates compared with 1996–1998 baseline period of laboratory-diagnosed cases of infection with *Campylobacter*, *Escherichia coli* O157, *Listeria*, *Salmonella*, and *Vibrio*, by year — Foodborne Diseases Active Surveillance Network, United States, 1996–2004



## Salmonella

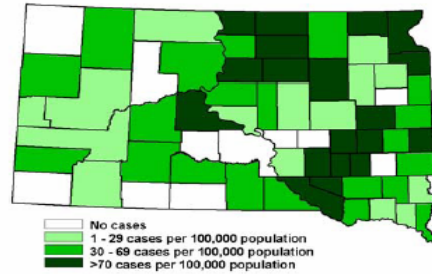
FIGURE 2. Relative rates compared with 1996–1998 baseline period of laboratory-diagnosed cases of infection with the five most commonly isolated *Salmonella* serotypes, by year — Foodborne Diseases Active Surveillance Network, United States, 1996–2004



## Campylobacteriosis

- Most commonly isolated in SD since 1999
- 273 cases in 2004
- 36/100,000
- 71% increase over the 5-year median
- 26% in children < 5 years of age
- Counties cases/100,000: Douglas (146), Kingsbury (141), Hanson (121), Potter (118), Faulk (118), Edmunds (115)

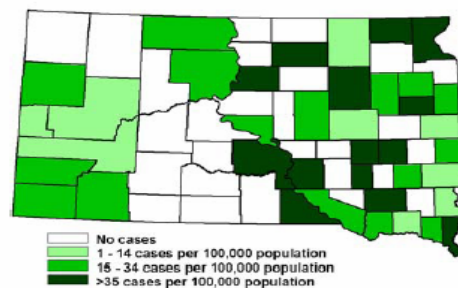
**Campylobacteriosis Incidence Rates by County, South Dakota, 2004**



## Salmonellosis

- 156 culture-confirmed cases
- 21/100,000
- Increase of 29% over 5 year median
- 20% children < 5 years of age
- Most common serotypes: enteritidis - 15% and typhimurium – 32%
- Counties – cases/100,000: Sanborn (306), Hamlin (252), Davison (108), Potter (79), Roberts (70), Gregory (65)

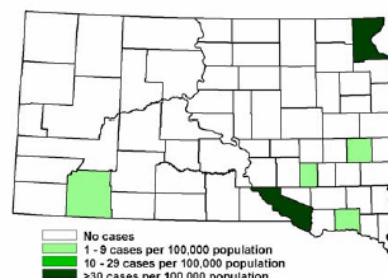
**Figure 43  
Salmonellosis Incidence Rates by County, South Dakota, 2004**



## Shigellosis

- 2001 Wide-scale outbreak – 716 cases, 2,210 % increase over 5-year median, highest in U.S.
- 2004 – 12 cases
- 28% increase over 5-year median
- 2 cases per 100,000 population

**Figure 44  
Shigellosis Incidence Rates by County, South Dakota, 2004**



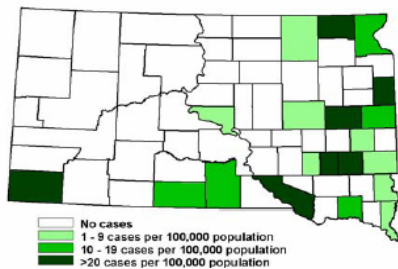
## Changing Scene in 2005-06

- Memo to physicians from SD DOH
- November 21, 2005
- Increase number of *Shigella sonnei* cases
- Children in daycare and their families
- Recommendations for controlling

## Enterohemorrhagic *E.coli* O157:H7

- 33 cases in 2004
- 25% decrease from 5-year median
- 61% in children < 5 years of age
- No cases of HUS associated is *E.coli* infection

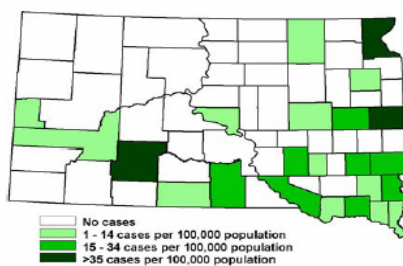
**Figure 45**  
*E. coli* O157:H7 Incidence Rates by  
County, South Dakota, 2004



## Giardiasis

- 87 cases
- 18% decrease
- 39% children < 15 years
- Counties: Roberts (40), Brookings (39), Jackson (35)

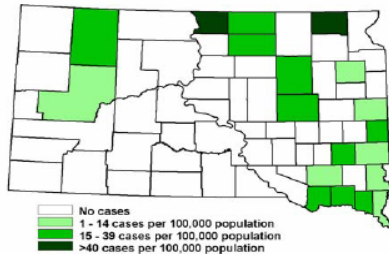
**Figure 46**  
Giardiasis Incidence Rates by County,  
South Dakota, 2004



## Cryptosporidiosis

- 44 cases in 2004
- 193 % increase over 5-year median
- 27% cases in children < 15 years of age

**Figure 47**  
Cryptosporidiosis Incidence Rates by  
County, South Dakota, 2004



## SD FBI Outbreaks

- August – youth church camp
- 18 ill over 20 hours
- Vomiting and diarrhea
- Hot dog buns
- Cross-contamination of buns by bare-handed contact for ill or asymptotically infected individual – recent illness
- Norovirus-like agent suspected

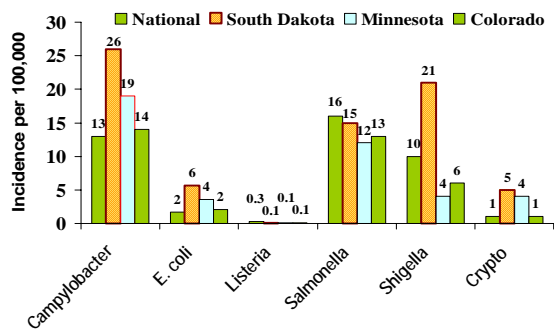
## FBI – SD 2004

- Commercial food establishment delivered to a group of students
- 19 ill – vomiting, diarrhea, nausea, weakness/dizziness
- Investigation – nothing from stool samples or foods
- Plausible hypothesis – bacterial toxin

## Foodborne Illness Outbreaks in South Dakota

- Estimated **200,000 foodborne illnesses** in South Dakota each year.
- Most are sporadic, isolated cases.
- Few seek medical attention.
- Few are reported to the Department of Health.

## Incidence of foodborne pathogens, 2002



MMWR 52/15, 18 Apr 03

## Reporting an Illness

## Employee responsibility

- SD Food Service Code - When to Report an Illness to Person In Charge?

If **diagnosed** with one of the following illnesses:

- *Salmonella spp.*
- *E. coli O157:H7 infection*
- Typhoid Fever
- *Shigellosis spp.*
- HAV infection (Hepatitis A Infection)
- Other diseases: Amebiasis; Campylobacteriosis, cholera, Norwalk virus; Giardiasis; staph or strept infections; Yersiniosis.
- Make sure employees are aware of this!

## Employee should report to the person in charge if have the following symptoms:

- Gastrointestinal (**excluded** from food handling)
  - Diarrhea
  - Vomiting
  - Fever
  - Jaundice
  - Sore throat with fever
- Lesion containing pus (**restrictions**)

## High Risk Condition – must report to the person in charge.

- Suspected of causing or being exposed to a confirmed disease outbreak caused by...
  - *Shigella spp.*
  - *E. coli O157:H7*
  - *Salmonella spp.*
  - HAV
- Causing and exposure can occur in several ways...

## EXCLUDE

- DIAGNOSED (big 4)
- **IF POPULATION IS HIGHLY SUSCEPTIBLE (NURSING HOME)**
  - SYMPTOMS (diarrhea, vomit, fever, jaundice, sore throat with fever)
  - STOOL CULTURE POSITIVE (NO SYMPTOMS)
  - *Salmonella* is last three months
  - *Shigellosis, E. coli O157:H7* last month
- Jaundiced
  - Within last seven calendar days
  - More than seven days – exclude if highly susceptible population.

## RESTRICT

- CANNOT WORK WITH EXPOSED FOOD, CLEAN EQUIPMENT, UTENSILS, LINENS, UNWRAPPED SINGLE-SERVICE AND SINGLE-USE ARTICLES IN FOOD ESTABLISHMENT.

### Conditions for restriction:

- No symptoms, stool is positive
- Suffering from symptoms, not positive stool
- Jaundice onset more than seven days and not working with a highly susceptible population.

## Hepatitis A Virus

•Sunday	•Monday	•Tuesday	•Wednesday	•Thursday	•Friday	•Saturday
				•1	•2 •Hepatitis A ingested by a food service worker	•3
•4	•5	•6	•7 •Incubation Period	•8	•9	•10
•11	•12	•13 •INFECTIOUS...	•14 •INFECTIOUS...	•15 •INFECTIOUS...	•16 •INFECTIOUS...	•17 •Customer ate salad prepared by foodservice worker •INFECTIOUS...
•18 •INFECTIOUS...	•19 •INFECTIOUS...	•20 •INFECTIOUS...	•21 •INFECTIOUS...	•22 •INFECTIOUS...	•23 •INFECTIOUS...	•24 •INFECTIOUS...
•25 •INFECTIOUS...	•26 •INFECTIOUS...	•27 •Foodservice worker becomes ill •INFECTIOUS...	•28 •INFECTIOUS...	•29 •INFECTIOUS...	•30 •INFECTIOUS...	•31 •Last day for customer to be immunized with gamma globulin •INFECTIOUS...

### Responsibilities

- Employee – reporting to the person in charge
- Person in charge –
  - contacting the health department officials when deemed necessary
  - enforcing policies
  - training staff so they know when and to whom to report

### Sources

- SD Department of Health  
**INFECTIOUS DISEASES IN SOUTH DAKOTA 2004**
- SD Foodservice Code
- SDSU CES Recertification Curriculum ES  
1303: *Serving Food Safely in South Dakota is Good Business*